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# SCIENCE

FRIDAY, SEPTEMBER 28, 1888.

NATURE SAYS, THAT, so far as numbers are concerned, the Bath meeting of the British Association has been below the average. The number of tickets sold has been about fifty less than two thousand, forming a marked contrast to last year's meeting, which beat the record. The diminished attendance has told to some extent on the grants, several of which had to be reduced below the sums originally proposed and approved of. The meeting next year will be presided over by Professor Flower. Among the grants allotted by the general council, the following may be mentioned. For the question of electrical standards £100 have been granted, the Ben Nevis Observatory receives £50, and six smaller amounts have been granted for researches in various branches of physics and chemistry. For the 'Geological Record' £80 have been allotted, and provisions have been made for studying the volcanic phenomena of Japan, the distribution of erratic blocks, and several paleontological and stratigraphical questions. The greatest grants have been allotted to the biological section. The Marine Biological Association and the Naples Zoölogical Station continue to be supported by the association by grants of £200 and £100 respectively. An amount of £100 each has been given to a study of the zoölogy and botany of the West India Islands and of the Friendly Islands. The same sum will be devoted to explorations of the geology and geography of the Atlas Range, and to an investigation of estuaries by means of models. In the anthropological section two important grants have been made, — one for continuing the studies on the north-western tribes of Canada of £150; and another of £100 for exploring the Roman Bath at Bath, a great part of which was excavated last year, and found in a remarkably good state of preservation. Besides this, a number of minor grants have been allotted, the total amount to be expended being £1,645.

## THE ORIGIN AND DEVELOPMENT OF LANGUAGE.

THE existence of a great number of independent linguistic stocks offers one of the most difficult problems to ethnology. Numerous attempts have been made to compare apparently separate stocks, and to trace their origin, but there remain a great number which cannot be derived from a common source. The most recent theory on the origin of linguistic stocks is the one offered by Prof. Horatio Hale. It was first set forth in his address as vice-president of the anthropological section at the Buffalo meeting of the American Association in 1886, and more fully expounded in a paper read recently before the Canadian Institute at Toronto.

The foundation of this theory is the frequently observed fact that children occasionally form a language of their own, apparently totally different from that of their parents. Hale has carefully compiled observations on this subject, and gives in both his papers very interesting and remarkable instances of such languages. He assumes that in a favorable climate a group of children may have become separated from grown-up persons, and thus developed a language of their own. He assumes that the process of forming dialects is entirely and fundamentally distinct from that of forming linguistic stocks. He concludes that children's languages of the type mentioned above are formed at one stroke, complete in all their grammatical elements. A few of the examples mentioned go far to show that this view is correct; but so far we miss the proof that these languages are really fundamentally distinct from that of the parents, as no philologist has ever studied one of them thoroughly. Hale explains the similarity of groups of linguistic stocks in regard to their structure by assuming a potential faculty in

the child to develop on a certain line. Such a faculty, in as complex a phenomenon as speech is, seems to us very improbable, and we are more inclined to see in such structural similarities a genetic connection.

Undoubtedly Hale has pointed out for the first time one of the most potent factors in the evolution of language, and the problem he propounds is so important that it ought to be taken up energetically.

As in every community child-language dies before being far advanced, it is self-evident that Hale's theory holds good only in such countries where a complete isolation of a few individuals, and complete interruption of their intercourse with the tribe from which they separated, are possible. Such can only have been the case where vast tracts of land were uninhabited; and, as this is no longer the case, the non-occurrence of such phenomena in historic times cannot be considered proof against the theory. One phenomenon of great importance we will mention in this place, as it is greatly in favor of Hale's theory, but unfortunately we do not know whether the authority is a good one. The children of a tribe of hunters in South Africa are said to speak a language of their own, which they do not give up until they take part in the expeditions of their parents. If this really means that a language has developed, spoken by all the children of the tribe, it would be an important step on the line indicated by Hale.

If this theory is correct, the difference between the development of dialects and linguistic stocks cannot be as fundamental as Hale assumes. Wherever occasion is given for a complete isolation of a few children, occasion also arises for an isolation of a few adults and many children, forming one household. In this case the language of the children may gain a dominating influence over that of the adults. The result of such an event would be a language similar in structure to the original language, while the vocabularies would be distinct in important features. It seems probable that children's speech may have had a great influence in the origin of dialects of certain linguistic stocks in which numerous words occur that have undoubtedly originated independently in the respective dialects. The probability of such an event has been recognized by Hale, who points out that his theory explains the fact that certain words are common to a great number of stocks, although they may differ in all other respects. He thinks that such words were remembered by the children, and retained in their new language. The character of the new language will also depend entirely upon the stage of development of the language of the respective children. We all know that the common baby-talk has to a certain extent the same, although simplified, structure as the mother-tongue, while its vocabulary includes many independent words. Undoubtedly there exist numerous intermediate stages between such baby-talk and a child-language of absolutely independent character — if such exists. Therefore, if these languages really gave rise to new languages, we might expect to observe a gradual shading-off between dialects and stocks. It is very probable that by the process suggested by Hale numerous new elements may have developed in the language of isolated families.

We are not inclined to accept his theory as explaining the origin of stocks entirely distinct in structure until it has been proved that a child's language of such character exists. Our reason for this opinion is, that a child's language cannot originate until the child has learned from its parents, and from other people with whom it comes in contact, that speech is a means of communication; that is, until it has apperceived the connection of certain sounds with certain other sensations. Therefore it seems probable that even an apparently independent child's language must be to a great extent influenced by the language it hears.

Therefore it appears of the greatest importance that the child's language should be studied in all its aspects. Some of the in-

stances mentioned by Hale are of the greatest interest, and we reprint one here, as it shows clearly what the subject of this study ought to be. In his second paper on this subject, Hale quotes from a letter from Von der Gabelentz the following: "My brother Albert's eldest son George, before he had learned his mother-tongue, called things by names of his own invention. In these names the constant elements were the consonants, while the vowels, according as they were deeper or higher, denoted the greatness or smallness. For instance, his term for ordinary chairs was *lakail*, apparently quite a self-made word. Now, he would call a great arm-chair *lukull*, and a little doll's chair *likill*. The root for round objects was *m-m*. He called a watch or a plate *mem*, but a large plate or a round table *mum*; the moon was likewise *mem*, but when he first saw the stars he said *mim mim mim mim*. His father, and at first every grown-up male person, was called *papa*, till he learned to distinguish between Papa and Grosspapa (*o papa*), and henceforth called all other gentlemen *o-papa*. Now, I am a head taller than was my father. So one day, when seeing my father and me together, baby called the former *o-papa* and me *u-papi*. One day in winter he saw his father in a large fur cloak and with his hat on. This impression he uttered with the word *pupu*, meaning a very big papa. The boy soon gave up his idioglossic endeavors, learning German before his next-born sister had reached the age of beginning speech. So that language could have no further grammatical development."

#### THE GREAT MEDICAL CONGRESS.

The First Triennial Session in Washington.—A Series of Brilliant Meetings.—Some of the Papers read.—Distinguished Guests.

THE meeting of the Congress of American Physicians and Surgeons, which took place in Washington last week, continuing three days, marked a new departure in national gatherings of American medical men. It was a convention of specialists, of men who have pursued their investigations, each in his own department, far beyond the point reached by the ordinary practising physician, even though his professional equipment be of the best. The papers that were read, therefore, presented the results of the most advanced scientific researches in the several departments, and the organization of the congress is such as to insure in the future the maintenance of this high scientific standard. All opportunity for scheming medical politicians to gain prominence or office is carefully guarded against, and the only chance that any physician has to gain distinction through membership of the congress is by presenting papers of such high order of excellence as to command the attention and secure the approval of the learned members of the medical profession to whom, as to the most competent critics, he submits his work.

Perhaps the best idea of the scope and objects of the congress may be gathered from the address with which Dr. Pepper of Philadelphia, chairman of the executive committee, opened the first session. He said,—

"On behalf of the executive committee, I have the honor to announce to you, the members of the various special associations composing the Congress of American Physicians and Surgeons, the manner in which we have discharged the responsible duty intrusted to us. The present meeting is the result of prolonged deliberations. The development of one special society after another showed the irresistible tendency of the recent progress of medical science. The deep interest which attaches to the meetings of these separate bodies suggested naturally the thought of a conjoint meeting, which would bring together the active workers in allied fields. This thought began to take definite shape as much as four years ago, before the attention of the medical profession became occupied with the preparations for the meeting of the International Medical Congress which occurred in this city last year. But all action was deferred, in order that there should not be even the semblance of interference with that important meeting. The delay has not been injurious. It has rendered more than ever conspicuous the actual need of an organization to secure the re-union, at stated intervals, of the more active teachers and writers and workers in the leading branches of medical science. Such re-unions must be at a locality to which it will be possible to draw such men from all quarters.

"In order to produce the best scientific results, it is essential that the members in attendance shall be reasonably limited, and that as far as possible the same men shall attend successive meetings. A continuity of intellectual life and activity is thus secured, which increases greatly the benefits derived from these meetings. A large proportion of those interested in the development of such an organization are, as I am myself, warmly attached to the American Medical Association, and determined to exert their influence to maintain and promote the success of this great national organization. All are no less warmly interested in the prosperity of the various special societies to which they severally belong. Your executive committee found little difficulty, however, in deciding upon a plan which would avoid even the least interference with the American Medical Association, while at the same time it avoided any encroachment upon the independence and autonomy of the special societies. It is unnecessary to dwell upon the special points which have been embodied in the by-laws which will be immediately submitted to you.

"Your committee ventures to hope that these provisions, which are strictly in accord with the terms of the resolutions under which they were appointed, will meet the unanimous approval of the congress. We have recommended that the sessions shall be triennial, thus leaving to each participating body two intervening independent meetings, at such time and place as may be chosen. We have jealously guarded against the admission of any parliamentary business into the work of the congress, the functions of which are designed to be absolutely and exclusively scientific. Thus, and thus only, can the sessions of this body be lifted up into and maintained in that high and cool air of learned discourse which best permits the diffusion of truth and the promotion of science. We have no less jealously guarded the independent sovereignty of each participating society. To all their full rights are preserved; to all equal privileges are accorded; upon all the burden of expense, which should always be but a light one, has been laid in equitable distribution. The successive meetings of the congress will be held in this beautiful city, which every year renders more accessible, more attractive, and more precious to every citizen of the Republic. Nor could we fail to make acknowledgment of the great material advantages we shall enjoy in these meetings here, through the liberal and enlightened policy which places freely at our disposal the admirable facilities of the medical department.

"And, lastly, your executive committee would report that in the discharge of one of the most important of our duties we have reached the conclusion that the selection of the president of each congress shall be intrusted to the executive committee then in office. Thus will the choice of the most worthy and most representative men of the whole country be insured at the hands of a truly representative body, specially selected by their various societies for their ability and judgment. The powers you are asked to confide to future executive committees are large, but they will be reposed in safe hands. Each society participating will be stimulated to continuous and lofty effort. Membership in any of these bodies will come to be regarded as more and more an honor, and in time the scientific qualifications of candidates will be more and more strictly scrutinized. Can there be any doubt, that, if the spirit which has led to the formation of this congress be maintained and cherished, this new organization will exert a powerful and beneficent influence on the future medical science? It remains, then, only to add, that, in exerting the privilege of selecting a president for this first Congress of American Physicians and Surgeons, your executive committee feel they have been guided to the choice of a man whose admirable personal character, whose high attainments, and whose illustrious services in the cause of literature, of science, and of the entire medical profession, mark him as entitled to this great honor and distinction. It gives me, therefore, the utmost gratification to present to you our president, Dr. John Shaw Billings, and to announce that the Congress of American Physicians and Surgeons is now duly organized."

Dr. Billings, on taking the gavel, in a few words expressed his appreciation of the honor which had been conferred upon him. His formal address was given on Thursday evening, and was published in last week's *Science*.

The address of welcome by Dr. S. C. Busey of Washington,